

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
12 May 2005 (12.05.2005)

PCT

(10) International Publication Number  
**WO 2005/042198 A3**

- (51) International Patent Classification<sup>7</sup>: **A61G 3/06**
- (21) International Application Number:  
PCT/US2004/033643
- (22) International Filing Date: 12 October 2004 (12.10.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/513,172 21 October 2003 (21.10.2003) US
- (71) Applicant (for all designated States except US): **THE BRAUN CORPORATION** [US/US]; 631 West 11th Street, P.O. Box 310, Winamac, IN 46996 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **KISER, Aaron** [US/US]; 8434 N. CR 600 W., Royal Center, IN 46978 (US). **GOODRICH, Ronald** [US/US]; 2716 Northwood Drive, Logansport, IN 46947 (US).
- (74) Agent: **STERN, Martin, L.**; Michael Best & Friedrich LLP, 401 N. Michigan Avenue, Suite 1900, Chicago, IL 60611 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

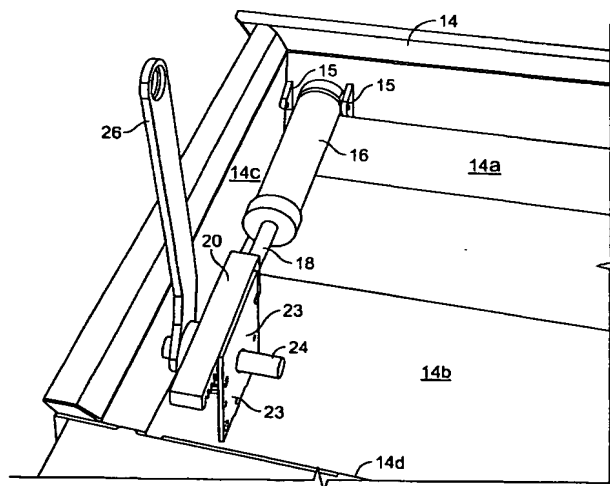
— of inventorship (Rule 4.17(iv)) for US only

**Published:**

— with international search report

[Continued on next page]

(54) Title: DRIVE APPARATUS FOR A MOBILITY ACCESS DEVICE



(57) Abstract: A linear drive system (100) for reversibly operating a wheelchair ramp (20) or other mobility access device is provided. The drive system (100) for the mobility access device includes an actuator (16) and a drive apparatus coupled thereto for moving the access device or portion thereof. The actuator (16), which may be a hydraulic cylinder, electric actuator or the like, has a linearly moving arm that cooperates with the drive apparatus including a gear rack (20) and a spur gear (22). The gear rack (20) is coupled to the moving arm and mates with the spur gear (22) that rotates on a shaft (24) in response to the linear movement of the moving arm. A drive link (26) is coupled with the spur gear (22) for pivoting about the shaft (24) to deploy and stow the access device.

WO 2005/042198 A3



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**(88) Date of publication of the international search report:**  
3 November 2005